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ABSTRACT

This interdisciplinary environmental education guide for teacher use focuses on a variety of environmental issues reflecting the theme that man is a part of nature and therefore must take action in the effort to save the environment. Although the guide was designed to be used in conjunction with the Man and Environment television series, it can also be used as supplementary material for classroom investigations or discussions, function as a course activities guide without the rigidity of a textbook, and/or present resource information available from local communities and state-wide organizations. The guide contains such issues as Environmental Perception, Wildlife and Man, Soil and Man, Intergroup Tension, Impact of Political Systems, and Myths of Technology. Each issue contains concepts, a brief summary, and activities. The activities include resource speakers, gardening, literature, films, discussion, group work, and others. (TK)

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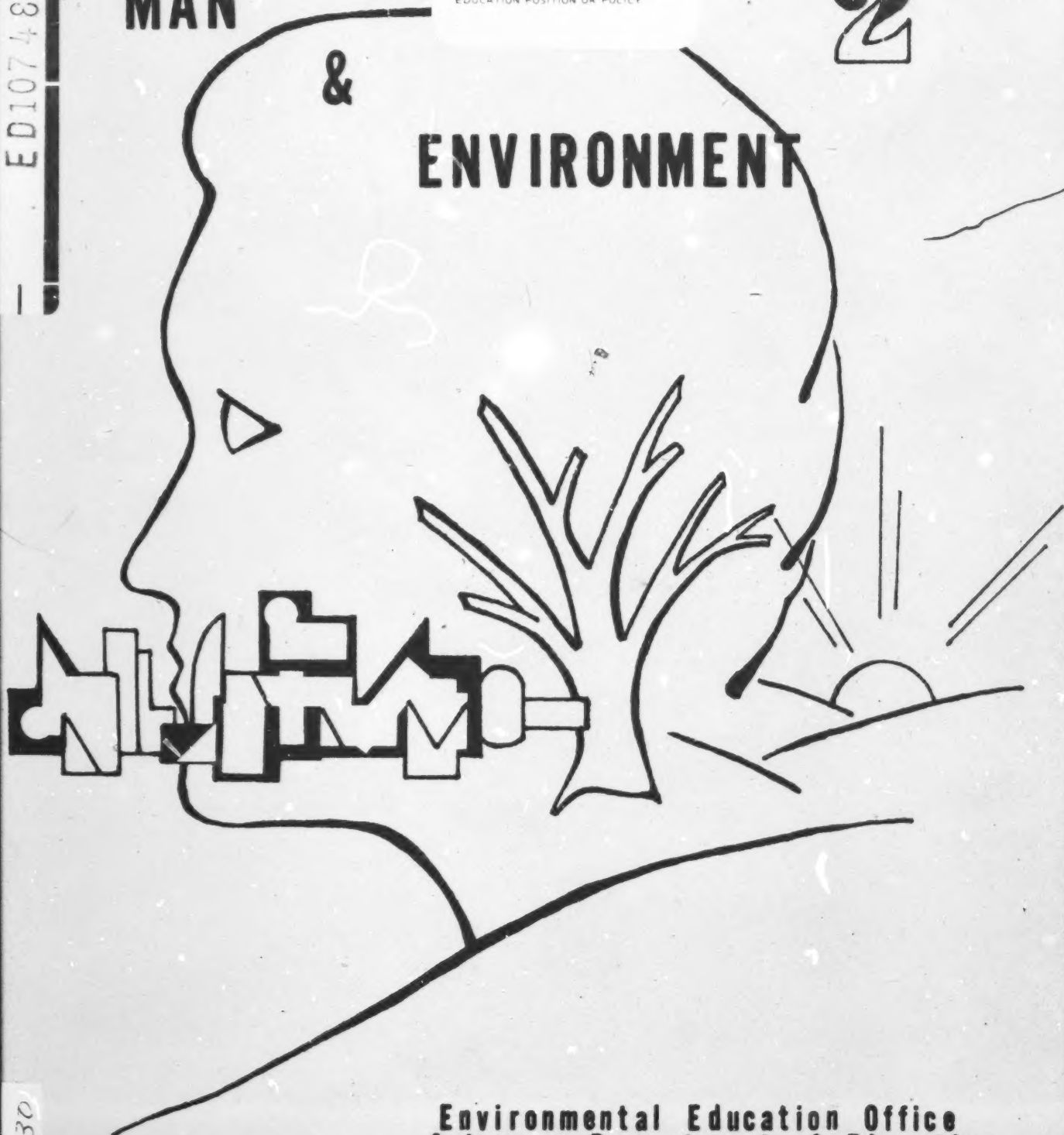
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MAN

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**Environmental Education Office
Arkansas Department of Education**

ENVIRONMENTAL EDUCATION

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WHAT YOU CAN DO? - Give us your support! Help us communicate what we are doing! Use our services!

ENVIRONMENTAL & CONSERVATION EDUCATION OFFICE SERVICES

Teacher training workshops in Environmental Education Study Areas.

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Curriculum materials, guides, textbooks, films and supplementary materials.

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Little Rock, Arkansas 72201

INTRODUCTION:

"Man & Environment" series is a stimulating presentation of environmental issues. The focus of the films shift from the pollution crisis to an analysis of the cause and possible solutions. The series is wide ranging in scope from ecological information to social and psychological attitude examination. Innovative and thought provoking ideas are presented creatively. Each viewer is prompted to evaluate his personal impact on the environment. While each film is unique, there is a recurring theme, man is part of nature and all of us must take action in the effort to save our environment.

How Should the Guide be used?

A multitude of uses can be made of the teacher's guide. It was designed to be used in conjunction with the "Man and Environment" television series but it is not limited to that function. It can also:

- (1) Provide supplementary material for classroom investigation or discussions.
- (2) Function as a course activities guide without the rigidity of a textbook.
- (3) Present resource information available from local communities and state-wide organizations.

Each activity may be modified to meet individual classroom needs. The references listed represent current environmental education literature but may be equally applicable to other sources.

Who Can Use This Guide?

The teacher's guide was written for teachers by a classroom teacher with experience in environmental education. It was written with all disciplines in mind. Not only can the activities be used in subject areas directly related to environmental education but it may be used in other disciplines as well.

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CREDITS

The author would like to give thanks to The ERIC Center for Science, Math and Environmental Education for helping educators to find the environmental education materials produced by other educators, and to Plover Books for their contributions from their outstanding text "Deciding How To Live On Spaceship Earth".

Special thanks are given to Mrs. Sara Wade for typing and re-typing this effort in Environmental Education.

"Our dedicated and thoughtful stewardship of this nation's resources and environment will determine mankind's future to a far more meaningful degree than armaments and diplomacy".

* Congresswoman Julia Butler Hansen.

ENVIRONMENTAL PERCEPTION

Concepts:

To increase the human quality of our surroundings, there is a need to minimize the destruction of nature and maximize its availability to man. To minimize the destruction of nature we must clarify our values and learn to think environmentally.

Summary:

How we perceive our environment influences our values, self-image, and attitudes. Every individual has a private environment which he is made aware of through the use of his senses. In the past physical experiences with nature were everyday occurrences. Modern man has limited contact with the natural environment and increased exposure to the artificial or man-made world. The question becomes, has man been made a prisoner by his own technology?

Emphasis is placed on the fact that the world is a being or a ecosystem. To think environmentally requires a change in thinking, a different frame of reference, or new habits of perception. To solve our environmental problems we must clarify our values and identify possible alternatives. Only by creating a balance between the natural and man-made environment can the quality of living improve.

Activities:

Economics- The film "Environmental Perception" Illustrated the disadvantages of our urban society. Discuss the economic factors which work to produce the ills of crowding, stress, and a less natural environment for city dwellers. List those factors, then discuss possible alternatives that might help eliminate those problems.

Sensory Experiences - in small groups, put on blindfolds, while one unblinded member passes articles to be identified. One object should be readily identified by smell (Ex. conch, watch). Another recognizable by taste (Ex. orange slice, grape). Another recognizable by touch (Ex. bit of fir, feather, sponge). After all items are identified and blindfolds removed, ask students to discuss their feelings from each experience. Was identification based on one sense alone? How did being blindfolded affect their feelings?

The Farkleberry Question - "The Farkleberry Question" as posed in The Farkleberry Cookbook in Environmental Education is fun-filled yet thought provoking class simulation game. Students must vote on flood control proposals on an imaginary river in Arkansas. For a free copy of the Farkleberry Cookbook, write to the State Department of Education, Room 104W, Environmental Education, Arch Ford Education Building, Little Rock, Arkansas 72201.

Advertising - Assign groups in the class to develop commercials which "sell" the natural environment and other groups to "sell" the artificial or man-made environment. After each group has presented its advertisement to the class, the students should choose which environment they would buy and discuss the reason for their choice.

Monitor Local Problem - It may be a solid waste disposal problem, water pollution, pesticide poisoning, traffic congestion, or flooding caused by poor land use. Monitor the problem for several weeks, post changes for the better or worse. Ask students what "costs" to the environment are resulting from the situation and what "costs" in the economy of the area result. At the end of a reasonable period of observation, ask students to assess the seriousness of the problem and suggest possible solutions. Select solutions to be communicated to local officials or individuals who can correct or modify the problem.

Goals For The Future - Discuss the question of whether "raising our standard of living" should remain a goal of future generations. Should it, as a goal, be modified or replaced entirely? Books by Buckminster Fuller may be used as a reference for more research.

Music - communication of experiences and feelings are often expressed in songs or poetry. One man's perception of his world is expressed in Cat Steven's song, "Where Do The Children Play?" Listen to the lyrics and discuss the attitudes conveyed.

Land Use Planning - P. 80-82, Deciding How To Live On Spaceship Earth. The exercise presents four proposals for land use in a city of simple design. The proposals include a sewage treatment plant, a nuclear power plant, a recreational facility, and a paper products factory. Only one of the proposals can be chosen. The reasons for the choice must be given. The exercise may be converted to describe a local setting, its past and present land uses, as well as plans for future use. How are plans made for use of the land in the local community? Ask one student to write local or regional planning offices to discover a criteria for land development or conservation measures for unique environments in the area. Be sure that the letter includes a stamped, self-addressed envelope for the response.

Arkansas History- Nature to many Americans means wilderness. Earlier Civilizations, such as the Egyptians or American Indians perceived nature differently. Discover their unique customs and religious beliefs by a trip to the Museum of Science and Natural History, MacArthur Park, Little Rock, Arkansas. Order a copy of the Museum's Resource Catalog at this address:

Museum of Science and Natural History
MacArthur Park
Little Rock, Arkansas 72202

Sound Discrimination - In an outside setting ask students to list all sounds they hear. Classify those sounds as natural or man-made. Are there significant differences in the effect on humans that natural versus man-made produce?

Law and the Environment- includes awareness of laws which help to protect the environment when they are enforced. Ask students what laws operate for nature's protection in Arkansas? "A Legal Overview" of Pollution Control Laws in Arkansas can be obtained by contacting:

Roger Morris
Department of Pollution Control & Ecology
8001 National Drive
Post Office Box 9583
Little Rock, Arkansas 72209

Explore Other Cultures - Have students compare western man's perception of the environment to that of eastern man. Contact local groups for Transcendental Meditation resource speakers who can provide information on eastern culture. Read The Cultural Ecology of the Chinese Civilization by Lon Stover for background knowledge of the Chinese civilization.

WILDLIFE AND MAN

Concepts:

Man and wildlife are interdependent. The balance of nature has been upset by technology and the increase in human population.

Summary:

Environmental deterioration is clearly evidenced by the rapid reduction in wildlife. Wildlife has decreased by destruction of habitats as man expands into new frontiers. Technological effects such as pesticide poisoning or oil spills, and over-cropping of certain species caused by greed or ignorance have direct impact on wildlife. Only when man recognizes that he is part of nature and dependent upon it for existence will he develop an environmental conscience and attempt to correct affects of his impact on the environment.

Activities:

Endangered Species of Arkansas - Find out the animals native to Arkansas which are on the endangered species list by writing to the:

Arkansas Game & Fish Commission
Game & Fish Commission Building
2 State Capitol Mall
Little Rock, Arkansas 72201.

Protecting Endangered Species - What laws are in effect in our state to protect wildlife? How might they be made more effective? Assign one student to write to the Arkansas Game & Fish Commission and other students to write to national organizations. National endangered species lists can be acquired from:

The Wildlife Society
3900 Wisconsin Avenue, N. W.
Washington, D. C. 20016

or

National Wildlife Federation
1412 Sixteenth Street, N. W.
Washington, D. C. 20036

When a response is received from these organizations the class may choose to adopt a certain species as a public information campaign. Wanted posters can be designed to illustrate what or who is endangering the species. Special pin-on tags can be designed using a catchy phrase or a psychodelic symbol to publicize the campaign.

Economics of Wildlife - Wildlife provides an array of benefits to man, many of which are economic. List those animals that are of significant economic benefit such as fish for food, then list animals of little direct economic benefit. Discuss relationship between the two groups and the necessary role of all groups whether they benefit man directly or

not. For a focus of consideration on animals of no direct economic benefit to man, read "MUST THEY DIE?", by Faith McNulty, Doubleday & Co., Inc., Garden City, N. Y. (1971).

Animal Habitats - Man's alteration of the natural environment has led to destruction of many wildlife habitats while it has perpetuated others. Divide the class into two study groups, one to investigate and report those animals whose habitats have been helped by the acts of man. See paragraph below for further use of the information gathered.

Organize a "Letters to Congress" Committee - Various members of the committee should become informed on special topics such as those noted in the film, "Wildlife and Man". Examples of topics are over-cropping of commercial fish and sea mammals (Whales and Porpoises), use of the purse seine by tuna fishermen which operates to drown porpoises, slaughter of rare species for their hides, experimentation with nerve gas using Beagle puppies as subjects and pesticide poisoning. Students can draft letters on specific issues to be mailed to Congressmen urging support or action through legislation. Tips on drafting letters to Congressmen can be obtained from Zero Population Growth, 1346 Connecticut Avenue, N.W., Washington, D. C. 20036.

Local "Letters to Legislators" - As students study local problems concerning wildlife and which ones are endangered in our state, they should express their concern to their local legislator. In the Special Legislative Session of 1974 the Wilderness Bill for purchase of wilderness areas in Arkansas was considered. What was the outcome? Are there better alternatives than preservation of wilderness areas? Arkansas has a newly established Environmental Preservation Commission, yet how effective can such a group be without funding? Ask your legislator.

FOREST AND MAN

Concepts:

Forests as distinct ecosystems supply man and other animals with food, shelter and enjoyment. Development of a forest is an excellent example of succession - change in nature.

Summary:

Forests and man is a wide ranging, scattergun approach to many important topics - all related to forests. A variety of forests are illustrated and their differentiation is explained as being a result of topographical features, soil type, sun and rain, among other factors. All factors work to produce the forest and its succession to other stages. A well made point in discussion of succession is that change in plant-life of a forest directly affects the wildlife community and indirectly affects man.

Forests have benefited man in a multitude of ways since primitive times. They continue to be beneficial however we have a tendency to exploit their wealth. The United States has a proud heritage in its forests but a lesson in management should be taken from past experiences in other countries. Consideration of the economic impact of our forests is expanded to an international scale. Wood and lumber products are traded around the globe for goods from countries with less woodland territories. However, as the film stresses, forests take many years to grow and the fact that they are renewable cannot relieve the responsibility for wise use and management of present resources.

Activities:

Arkansas Forest Types - Discover the forest types found in Arkansas by writing the:

Information & Education Department
Arkansas Forestry Division
Post Office Box 4523, Asher Station
Little Rock, Arkansas 72204.

Information is also available from the:

State Planning Commission
Capitol Hill Building
Little Rock, Arkansas 72201

Natural Divisions of Arkansas - A document which can provide information on the topography, soil type, hydrology and the animal life of the natural environments found in our State. - case studies of each division by

researching the following questions:

- (1) How does the area benefit Arkansas economically?
- (2) What are its values other than economic ones?
- (3) How would a drastic change in the amount of rainfall alter the particular ecosystem?
- (4) Can hypotheses be drawn as to possible succession in the given natural division?
- (5) How would you personally be affected should a forest fire of catastrophic proportions sweep the division?

The Forest Industry in Arkansas - Paper industries have been drawn to Arkansas by our favorable wood producing climate and the availability of large tracts of timber to purchase, among other factors. Where is the wood grown in our state processed and marketed? Who are the consumers of Arkansas' woodlands? Delegate one class member to write one or more of the companies for information on paper and wood-products industry as conducted in Arkansas. They may write to:

Georgia-Pacific Corporation
Public Relations Department
Post Office Box 520
Crossett, Arkansas 71635

or

Weyerhaeuser Company
Post Office Box 1060
Hot Springs, Arkansas 71901

or

International Paper Company
1100 North University
Little Rock, Arkansas 72207

Forestry Resource Speakers - Invite Ranger Jim Martin, Specialist, Environmental and Conservation Education, to speak on forestry. His address is:

Mr. Jim Martin, Specialist
Environmental & Conservation
Arch Ford Education Building
State Capitol Mall
Little Rock, Arkansas 72201

Or you may write a representative from the:

Arkansas Forestry Commission
3821 West Roosevelt Road
Little Rock, Arkansas 72204;

The Ozark National Forest
Russellville, Arkansas; or

The Ouachita National Forest
Hot Springs, Arkansas 71901.

Life or Death Question - Take a short trip outside and discover the oldest tree and the youngest tree on the school grounds. Is it easy to determine the age of a tree? What methods can be used? How do you feel about cutting down an old, well-developed tree in comparison to uprooting a small newly sprouted one? Can your attitude toward the death of a human, old or young, be analogized?

Foreign Trades - Ask students how they feel about trading U. S. grown timber for Japanese electronic equipment? Would you classify the attitudes to that of isolationism, free trade or an intermediate? Give reasons.

Man-made vs. Natural Change - Take a short field trip and investigate natural change in comparison to man-induced change. Is it easy to distinguish between the two kinds of change? Which occurs more slowly? Is either more detrimental to the environment than the other?

Monitor Change - Select an area to visit repeatedly. During each visit note all changes that have taken place, then try to discover what caused the change. Some changes may occur mysteriously and a detective approach may need to be used to solve the mystery.

A Guide to Short Field Trips - Related activities can be found in a teacher's guide by Helen Ross Russell, Ten Minute Field Trips. Using the school grounds for environmental studies, it suggests a variety of investigations useful for all age groups. Published by J. G. Ferguson Publishing Company, Chicago, Illinois (1973), Library of Congress Catalog Card No. 70-189899.

Forestry and The Law - Preservation laws for forests and their use operate at the national and state levels. What laws of Arkansas protect our forests? How are our forests affected by national laws? Are these laws readily enforced or are they difficult to enforce? Answers to these questions can be obtained by writing:

Information & Education Department
Arkansas Forestry Division
P. O. Box 4523, Asher Station
Little Rock, Arkansas 72204

Public Relations and The Forest - Smokey the Bear effectively promoted public consciousness for preventing forest fires. Is there a need for other public education in relation to forests? Have students devise a symbol such as Smokey to communicate that need.

Reference for Succession Studies - "Terrestrial Ecology", by William A. Andrews, Prentice-Hall, Inc., Englewood Cliff, New Jersey, is an excellent High School paper back text in general Ecology for Science classes.

The Redwood Controversy - A role playing game of a Senate hearing on three possible proposals concerning a group of redwood trees. The game was developed by Educational Research Council of America and is produced by Houghton-Mifflin Company, 110 Tremont Street, Boston, Massachusetts, 02107. The game can be played by the entire class and would be useful in Science, Social Studies and Drama classes.

OXYGEN GIVER

A blade of grass using the rays of the sun as its source of energy, grass synthesizes carbon dioxide, water and minerals to promote green growth. In the process, it takes pollutants from the air, filters out dust particles, and gives off oxygen in return.

In fact, actively growing grass on a 50 by 50 ft. plot releases enough oxygen to meet the needs of a family of four, day by day.

The world needs more such greenery.



GRASSLANDS AND MAN

Concepts:

Another significant type of ecosystem is grasslands. Grasslands are called the "food factories" of the earth.

Summary:

Basic to every ecosystem is a producer. Grass is an often overlooked component producer of many environments. A grassland is an ecosystem where the predominant vegetation is grass. Examples of grasses utilized most abundantly by man are wheat, rice, corn and oats. Estuaries and marshlands are kinds of aquatic grasslands - wetlands. Here too, man has mis-used and wasted a natural resource. Grasslands continue to be of tremendous value as a food source for man and wildlife all around the world, yet lack of appreciation for this resource may lead to its demise.

Activities:

The Grassland of Arkansas - What role do grasses play in the economy of Arkansas? The state at one time had an extensive Grand Prairie. It and other remnant grasslands still can be located. Maps from the Soil Conservation Service depict the past expanse of grasslands in Arkansas. Students may write Mr. M. J. Spears, State Conservationist, Soil Conservation Service, Post Office Box 2323, Little Rock 72203. Natural Divisions of Arkansas, available from the Arkansas Department of Planning, also provides some information on grasses. Should any of the remaining prairies be accessible for field trip, please caution all students to treat the area with respect. Since the prairies are greatly diminished in size, even a minimum of trampling or collecting in the area can be damaging.

Wetlands - Access student attitude toward swamps and marshes. Have we incorrectly perceived their value in the natural environment? How are they beneficial? Can you find examples in the community of swamps that have been developed for construction? What disadvantages resulted? What advantages resulted? Which are of greatest importance in terms of stewardship of the environment?

Grass Types - Arrange a demonstration of grass types and uses. This can be done through use of posters or by pressing natural specimen and their food products, such as wheat, rice or corn.

Ecology of Grasslands - Investigate root systems of grass. Ask how their structure helps hold soil to prevent erosion. Why is fire helpful in maintaining a prairie community?

Field Trip Ideas - for studying grasses are also presented by the previously cited Ten Minute Field Trips teacher's guide written by Helen Ross Russell.

Weed Seeds - Although grass is not a weed, in undesired places it might be considered one. Have students collect seeds of weeds, then examine their structure and ways of being dispersed. Plant the seeds and monitor their development.

Herbicides - To rid lawns and gardens of weeds many herbicides are used. Discuss whether this is always recommendable. What is wrong with plants growing in the yard unlike other plants there (weeds in contrast to grass)? Is this evidence of our attitude toward conformity? How are herbicides damaging to the environment? Are there times when herbicides should be used? Contact your local Soil Conservation Service Office or local Conservation District Office.

The Environmental Protection Agency - A source of information for herbicide use is the U. S. Department of Agriculture. You may write to:

The Environmental Protection Agency
401 "M" Street
Washington, D. C. 20406

and to:

The United States Department of Agriculture
Cooperative Extension Service
1201 McAlmont Street
Little Rock, Arkansas 72202

*"The Earth does not belong to Man,
Man belongs to the Earth."*

Chief Seattle, Suquamish Tribe, 1854.

SOIL & MAN

Concepts:

Another vital element of our environment is the thin layer of soil that covers the earth. All life depends directly or indirectly upon soil as a natural resource.

Summary:

Soil is much more than just dirt. It is a precious natural resource containing minerals, organic matter, water and living things. There are over 70,000 soil types in the United States. Characteristics of soil type determine its ability to produce vegetation, provide support for surface structures and either retain or release water finding its way into the soil.

Man has mismanaged soil resources in the past. Efforts to correct this mismanagement have been undertaken by the United States Soil Conservation Service. However, the burden of correction lies upon the individual land owner. With the aid of the Soil Conservation Service, individuals can implement wise land use plans.

Activities:

SCS - Ask students where the Soil Conservation District for your community is located. What services does it provide? Soil maps of Arkansas can be obtained by writing to:

Mr. M. J. Spears, State Conservationist
Soil Conservation Service
Post Office Box 2323
Little Rock, Arkansas 72203

Land Use - Discuss these questions with the class: What laws govern land use in your community? Are there zoning regulations in effect? Who has the responsibility for enforcement of those laws? Answers to these questions are available through local government officials or the Planning Commission.

Investigate Soil Types - Investigate those found on the school ground. If a soil sampler is not available, dig down about six inches and take soil from the edge of the hole, avoiding debris or roots. Take approximately six such samples in different areas, combining all collection in one bag, then mix them and take out one-half pint of soil for final sample. Return the remaining soil to the ground. The local Soil Conservation Service can help in identifying the soil samples.

Plant Growth & Soil Types - Experiment with various types of soil by planting a seed in each soil type. Set up controlled conditions by using healthy seeds of one kind, watering the same amount, allowing equal exposure to sunlight, temperature and air. Once the seeds have germinated, record their growth on a chart. Compare the rates of growth in each soil type. Determine which soil type was best for the seed planted. Would the same soil work as well for another kind of seed?

Plantings - Suggest that class members adopt individual projects around their own home or public area nearby to plant trees or grass. If possible, secure cameras for "before" and "after" pictures.

Organic Gardening - Assign students to set up an organic gardening project. Require that all methods utilized for fertilizing, destroying pests, etc., are purely organic. Assign research problems to discover more information about particular organic gardening techniques. "The Basic Book of Organic Gardening", Robert Rodale, Editor, is available from Rodale Press. An article reproduced in There Is No "Away", by Roloff & Wilde, is published by Glencoe Press, Beverly Hills, California.

Land Use in Literature - "Design With Nature" by Ian McHarg, sets forth the considerations necessary for proper soil and land management. Apply the standards proposed in Design With Nature to actual land use practices of the area. Do they comply? If not, what problems may arise for failure to consider a particular factor?

Resource Speakers - Invite a local Soil Conservation officer to speak to the class about land use or soil preservation. The Soil Conservation Service office in Little Rock has available excellent slide presentations and speakers. Contact them at the Soil Conservation Service, Post Office Box 2323, Little Rock, Arkansas 72203.

Acres for Wildlife - Find out what Arkansas Acres for Wildlife is all about. Address inquiries to:

Arkansas Acres for Wildlife
Cooperative Extension Service
Post Office Box 391
Little Rock, Arkansas 72203

or

Arkansas Acres for Wildlife
Arkansas Game & Fish Commission
Attn: Game Division
Game & Fish Commission Building
Little Rock, Arkansas 72201

Federal Land Management - The Federal Bureau of Land Management is responsible for 453 million acres of public land.* What methods are utilized by the Bureau for effective environmental planning? For information, contact the Bureau through the United States Department of the Interior, Washington, D.C.

* As reported in the U. S. Department of the Interior Environmental Report, River of Life, Conservation Yearbook Series, Vol. VI.

Simulation Game - "100 Teaching Activities in Environmental Education", by Wheatley and Coon, suggests attending a City Council meeting where authorization for a new housing development is being sought. As a follow-up, students discuss the views expressed at the meeting. More information for this activity can be found in the publication itself. Contact:

The ERIC Center for Science, Math and
Environmental Education
1800 Cannon Drive, 400 Lincoln Tower
Ohio State University
Columbus, Ohio 43210.

INDIVIDUAL MALADJUSTMENT

Concepts:

Struggle for survival in today's cities is far removed from the struggle experienced by early man. Inability to cope with the stress of modern living may be a result of diminished contact with nature and other men.

Summary:

From the beginning of their life, all organisms are constantly making adjustments to meet the demands of their environment. Man has isolated himself from the direct effects of nature through his ability to alter the environment. Unfortunately, the extent of this isolation has deprived man of a valuable asset - the feeling of being a part of nature.

The film theorizes that our ancestors worked directly with nature and that interaction provided a sense of purpose and well-being. Loss of contact with nature consequently obscures our identity and produces maladjusted individuals. A renaissance with nature can possibly restore the balance and act as an antidote for the stress of contemporary living.

Activities:

Drug Abuse - an estrangement from the Environment - High school students are quite aware of the social problems of alcoholism, drug abuse, and suicide. Ask them to consider the idea proposed by the film, that our inability to cope is a result of less direct contact with the natural environment. Does the class agree that a reawakening of man's being part of nature can counteract the ills mentioned above?

Psychological Resource Person - Invite a community psychologist or psychiatrist to visit the class and express his opinion of the idea that less contact with nature contributes to individual maladjustment.

Discussion of Adjustment Problems - Divide the class into small groups of five or less. Ask each group to discuss the problems that confront them and ways they adjust to solve those problems. Ask them to consider adults they know with adjustment problems and discuss whether having lived in closer communion with the natural environment would have produced different adjustment patterns.

Moods and Music - Music can greatly influence each person's mental attitude. Begin class by listening to music which is soothing and relaxing. Examples are recordings by the Carpenters, "We've Only Just Begun" or a more recent release, "I Wouldn't Last the Day Without You". Ask students to assess their feelings in response to the music. Does the music invoke pleasant feelings, happiness, or tensions? Continue the exercise by allowing students to bring in recordings of their choice and as each is listened to, analyze response.

Writing about Feelings - Emotions can be expressed through poetry or other compositions. Challenge the class to write a poem or a prose essay on a place which makes them feel very comfortable and happy, or alternately, a place of discomfort and unhappiness.

Evidence of Maladjustment - Crims is an ever increasing example of individual maladjustment. Priorities for the 70's - Crime, by Stewart & Clark, discusses causes of crime and possible solutions. Also, on page 11, it suggests a format for action. It emphasizes that to reduce crime, all citizens must help. It is published by John Day Co., New York (1971).

Ancestral Perception - Discuss with the class the issues of whether our ancestors had fewer mental and emotional upsets than we have today. If so, why? Did their closer contact with nature help relieve stress or are we just more familiar with mental and emotional problems today?

"The most important lesson we have to learn in education is to live together, not calculus".

Ramsey Clark, Jr., Former U. S. Attorney General, "Face the Nation" on CBS, May 23, 1971.

INTERGROUP TENSIONS

Concept:

Should minorities who are concerned with "hand-to-mouth" problems be concerned with environmental problems?

Summary:

Environment means the totality of our surroundings; the humans we interact with as well as the physical environment. Friction between humans is as much a form of pollution as are pollutants in air or water. The film does not focus on specific causes of intergroup tension but it does contend that our value systems are the basic sources of discord. The difficulty in convincing poor people that concern for the environment is important in that those struggling for their own existence cannot really be expected to worry about other endangered species. To solve our environmental problems, we must cooperate individually, regardless of race or economic status. Working for all will mean we are working for ourselves and our environment. The solution to intergroup tension may lie in a lesson from nature - all things are interdependent. All things are dependent on the harmonious functioning of the total environment.

Activities:

Group Behavior - Divide the class into five groups. The Insiders and the Outsiders. The insiders should be smaller in number than the outsiders. The insiders form a circle by joining hands. The outsiders attempt one at a time to break into the insiders' circle. The objective for the insiders is to prevent the outsiders from entering the circle. If an outsider is successful in breaking the insider circle, he can join it and participate as other outsiders try to enter the circle. After all have attempted entry, discuss the following questions: Did intergroup tension occur? If so, why? Was it because the goals of the groups were different? Would the tension have been greater if the competition between the groups had been for money?

ATAC - An organization which can provide information and material for teachers interested in relieving intergroup tensions. ATAC is Arkansas Technical Assistance and Consultative Center, Ouachita Baptist University, Arkadelphia, Arkansas 71923. Information on cultural diversity and minority group life is available.

Poetry of Langston Hughes - can be recited and discussed as illustrations of the experiences of Blacks. Who is Langston Hughes? Who is Daniel Hale Williams? Assign research for other black persons in science, politics and art. Information is available from ATAC - address given above.

Discussion - The American Dream - Has the American Dream become a nightmare? Is material wealth an assurance of happiness? How much do material things influence your happiness? Has the American Dream contributed to Intergroup Tension?

Discussion of Values - How often do you wish for new clothes, car or more money in contrast to the number of times you wish for a new friend? When have you become concerned enough about the happiness of another person to do something about it? Examples to think about are the elderly who are alone and uncared for, poor families who do not have enough food and clothing. Is Christmas the only time for sharing?

Discussion - Segregation - The issue of busing was hotly contested in some areas of the country. Other tools of desegregation have also been discussed. (1) Discuss whether segregation exists in the local community. If it does, in what ways? What factors produced the desegregated situation? (2) The Supreme Court ruling in Brown vs. Board of Education stated that schools were to be desegregated "with all deliberate speed". How long has it been since those words were spoken? Has desegregation been accomplished? What can individuals do to help?

The Media and Race Relations - Movies such as "Sounder", "To Kill A Mockingbird", and "West Side Story" vividly depict minority group experiences. How have movies and other media such as television helped to increase understanding between racial groups? Would not increased contact and communication by individuals also help to dispel intergroup tensions?

Economics of Discrimination - The Civil Rights Act of 1964, also called Title VII, prohibits discrimination in employment on the basis of race, color, sex, religion and national origin. It applies to private employers (who employ at least 15 persons), labor organizations, and employment agencies. As amended in 1973, it also applies to state and federal governments. Violations of the Act are to be reported to the Equal Employment Opportunity Commission except for government employees who seek redress through the Civil Service Commission. Are there other groups that need legal protection from discrimination? What economic impact does discrimination have? Does not lower income because of discriminatory practices mean greater dependence on welfare programs and lack of educational opportunities for children of such families which perpetuates the problem? For reference on the costs of discrimination, see Labor Relations and Social Problems by Covington & Jones, published by the Bureau of National Affairs, Inc., Washington, D. C.

Literature - The play "Raisin" by Lorraine Hansberry, as adapted from the book, Raisin In The Sun, by the same author, can provide a case study of black experiences. Make short story assignments on the topic, "Intergroup Tensions I Have Experienced".

Music and Attitudes - Contemporary music frequently reflects attitudes between persons or groups. Allow the class to suggest songs which indicate interpersonal attitudes. One example of a song about concern for others is George Harrison's "Help Me Please". Listen to recording such as this one or "United We Stand", by Sonny and Cher, and discuss their influence on thinking.

SOCIAL INSTITUTIONS

Concepts:

Four basic social institutions, family, school, church and interest groups - determine our beliefs and value systems. Influence from these institutions will either retard or promote concern for the environment.

Summary:

Social institutions of any civilized nation reflect the people of that nation. The Family is the basic unit of any culture. Primary values are learned from the family. Early America was agriculturally oriented and existence depended upon the family farm. Movement away from the farm to the city resulted in the families' loss of perception of the need of land for survival.

The education system of the United States has a direct influence on every citizen. Schools could do much to instill environmental awareness in all students. Religion as a social institution plays an important part in man's perception of himself. Influencing man to think environmentally as a steward of the earth could be a significant contribution to be made through churches. Interest groups help to focus the individual's attention on needs of the environment and other humans around him. All four institutions are keepers of man's belief systems and will foster attitudes either for or against the needs of the natural environment.

Activities:

Family Inventory - Evaluate the impact of the family as a social institution on the environment. Who in the family are producers? Who are consumers? How does family size, its number of cars, its standard of living contribute to consumption of energy and other natural resources? How does it contribute to the solid waste problems? Have students make a family inventory. The inventory should include the number of persons in the family, the number of cars, the number of electrical appliances or any indicators of use of natural resources by the family unit.

Debate - The Influence of the Family - How is change brought about in social institutions? Have family concepts been altered since World War II? Divide the class into debate groups. The major point for debate can center on the role of the family in contemporary society. Is it losing its influence? For a collection of excellent articles on family size and its impact on the environment, see There is No "Away", by Roloff & Wylder, Glencoe Press, Beverly Hills, California 90211. Library of Congress Catalog Card Number 74-142345.

School Attitudes - Does the school system foster anti-ecological attitudes? How much paper is thrown away without having been fully utilized? What other manifestation of the "Throw-Away" Society are found on the school ground? How can an individual work to change that attitude.

School Recycling Project - Contact a local paper recycler. Arrange to sell paper collected from a community drive to the company. Publicize the paper drive through school media as well as local newspapers, radio, and television. Set a date and places for collection. Assign teams of students to be responsible for each collection point. When the money from the drive is received, contribute it to some ecological need. Examples are buying trash recepticals for litter on campus and purchasing small shrubs or trees to be planted on campus. Publicize how much paper was collected and to what use the proceeds are being contributed.

Church Conference - Are the churches of the local community aware of environmental problems within the area? If they are aware, what are they doing to solve the problems? Organize a public information conference. Specifically invite local church leaders of all denominations. The conference should focus on local environmental problems and the need for participation by all community groups to bring about a solution.

Local Interest Groups - What local interest groups do you have in your community? How many of them are ecology oriented? Are there state-wide organizations of which local persons are members? Organizations in Arkansas include the Ozark Society, Arkansas Wildlife Federation, Zero Population Growth, and the Audubon Society. If local members can be found, invite them to speak to the class about the goals of the organization and the advantages of membership.

Environmental Impact Statements - Research to see if any major land developments or construction projects have been stopped in Arkansas because of their impact on the environment. What considerations should be given before the face of the land is drastically altered or a highly polluting facility is constructed? Contact:

Roger Morris
Arkansas Pollution Control & Ecology
8001 National Drive
Little Rock, Arkansas 72209

Scenario - An energy shortage is declared - All residences will receive electrical power only four hours per day. Gasoline will be rationed nation-wide. Rationing stamps will be issued and each purchase will be limited to five gallons per customer. Ask students to explain the effects of an electricity shutdown and gas rationing. In what ways would each person's life change should such a shortage occur?

International Interest Groups - The International Environmental Conference held in Stockholm, Sweden, in 1972 is an example of an interest group. What was the outcome of that conference? Will more be held? Students can participate indirectly by expressing their views on such a conference to their Congressmen. If the class favors such conferences, express their ideas about continued meetings. Information on continuing effects of the conference can be obtained by writing:

UNESCO, United Nations
Avenue of the Americas
New York, N. Y.

MECA - Midcontinent Environmental Center Association was founded in 1970 as an effective means of "combining the best available resources and expertise, of marshalling public and private resources, and of involving Americans at all levels of life in the effort to achieve a harmonious existence with our delicate and finite surroundings". MECA has published The Model Arkansas River Basin: A Plan For Action, which details a procedure for growth and development along the waterway. More information about MECA and its publications can be obtained from:

Dr. George R. Walter, President
Midcontinent Environmental Center Association
Oklahoma State University
Stillwater, Oklahoma.

Products of Group Involvement - As a result of interested groups and concerned individuals our Federal government now has an Office for Consumer Protection. Arkansas has one as well. It was created by an Act of The Legislature in 1971 - CONSUMER PROTECTION ACT, ARK. STAT. ANN. Sec. 70-901 through 70-903. It operates through the office of our State Attorney General. Much information on consumer rights and products safety can be obtained by writing:

Mrs. Clyde Calliott
Consumer Counsellor
Consumer Protection Division
Justice Building
Little Rock, Arkansas 72201

The Press as an Institution - Another social institution which influences our lives daily is the press and news media. Assign students to survey local newspapers and television broadcasts for articles involving environmental issues. Challenge students to draw cartoons concerning current events.

"It is my belief that only the flat rejection of war-as-usual, profits-as-usual, comforts-as-usual, and politics-as-usual thinking will save this planet from its quickening slide into environmental disaster..."

VANCE HARTKE

IMPACT OF POLITICAL SYSTEMS

Concept:

Material, social, and political values are reflected by the form of government a nation utilizes. Governmental policies toward environmental preservation expose a respect or disregard for nature.

Summary:

Environmental problems know no political boundaries. However, the policies made and conducted by political systems have significant impact on global ecology. As nations of the earth become aware of the hazards that face all of us if abuse of nature continues, they may unite to correct those abuses. Indeed, cooperation has begun as a result of the International Environmental Conference of 1972.

National legislation sets up guidelines for correction of man-created ills. Yet, without individual cooperation and communication, those guidelines will be ineffective. The measure of value of environmental laws is the degree to which they are enforced and supported. The people of each nation must police themselves. This requires constant vigilance and communication to mold the policies of our political system.

Activities:

Politics of Development - As Americans we are responsible for a significant proportion of the earth's environmental ravaging. This reflects individual attitudes as well as the impact of our political system. Should the government intervene to "save the environment" and preserve the quality of life, or should it act in the interest of national economic development, prosperity and more profits to stockholders? Conduct the activity found in Encounter #3, "The Politics of Development" (p. 40), in Deciding How To Live on Spaceship Earth, written by Allen, Toxi, Ulrich & Wollard, and published by Plover Books, Terrace Heights, Winona, Minnesota 55987.

International Pollution - Research the question, "Can the next generation stop pollution?" See Ch. 11, Pollution of the Environment: Can We Survive?, Michael Glassman, Globe Book Co., Inc. 175 5th Avenue, New York, N. Y. 10010. The same book, "Pollution of the Environment", also discusses pollution as an international problem. Looking at the map on pages 146 and 147, answer the questions about world-wide pollution.

Council on Environmental Quality - In 1970 the Federal Government responded to the need for preserving environmental quality. The National Environmental Policy Act 1969 set forth goals for the nation. Has this law been effective? It created the Council on Environmental Quality which is responsible directly to the President. What is the function of the Council? Does it truly fill the need for integrating environmental management? See Environmental Law, by Frank P. Grad, Matthew-Bender, 235 East 45th Street, New York, N. Y. 10017 (1971).

Air Quality Laws - The 1970 Amendment to the Air Quality Act set national standards for air quality. At that time Arkansas' air quality was above the national standards. Has this remained true? What laws govern air quality in our state? Write for a copy of "Legal Overview" from the Department of Pollution Control and Ecology, 8001 National Drive, Little Rock, Arkansas 72209, Attention: Mr. Roger Morris, Public Information Officer.

Environmental Legislation - Common Cause is an organization which lobbies for environmental legislation in Washington, D. C. For information on membership and the activities of the organization, write:

Common Cause
Washington, D. C.

Challenge students to think of ideas for legislation that would improve environmental quality of prevent its degradation.

Personal Commitment - Incentive for personal commitment to action is given in E. P. The New Conservation. E. P. stands for Environmental Practice and was written by Griffith, Landin and Jostad. It is published by the Izaak Walton League of America (1971).

Federal Red Tape - The Film, "Impact of Political Systems", stated that state governments frequently find that federal guidelines and regulations become a stumbling block. What is meant by that statement? Is it true in Arkansas? The Department of Pollution Control and Ecology may provide the answer (address given above).

Using Your Congressman - How about your impact on the political system? How do Congressmen from Arkansas stand on environmental issues? When an important construction project or land use bill arises, do you become informed about it? Do you come in contact with the legislators for the state only when they are running for office or do you continue to be informed about their work after election? Have your class discuss their feelings and express them. Tips for effective letter writing, a legislative glossary and pamphlet, listing members, their committees and assignments can be obtained from: Zero Population Growth, 1346 Connecticut Avenue, N. W., Washington, D. C. 20036.

American Political Dreams - Discuss the 1928 Presidential campaign slogan, "A Chicken in Every Pot, A Car in Every Garage" as part of the American dream. What do current political slogans reflect about our present attitudes? Is "bigger" necessarily "better"? This activity and other useful ones are suggested by the New Jersey Council for Environmental Education.

"Environmental liabilities can become economic assets if we treat waste as a resource.

Roger Morris, Public Information Officer, Arkansas Department of Pollution Control and Ecology.

IMPACT OF ECONOMIC SYSTEMS

Concepts:

Economics is the study of man's attempt to organize his environment to satisfy his material needs. Every consumer wields the power of acceptance or rejection of goods produced by the economy.

Summary:

Economics involves the study of production, consumption and distribution of goods and services. Earlier civilizations relied on each individual's production of goods and services to fulfill his needs directly. Production is now accomplished by efforts of others. All of us receive goods and services indirectly. The basic problem of any society is how to allocate limited resources to meet unlimited wants. The way in which a governmental system responds to this problem determines its economic system. The United States measures its economic success by the GNP - Gross National Product. The film suggests this term has come to have a secondary meaning ---Grim, Nauseating, Pollution. All of us as consumers can make an impact on the economic system by refusing products which only add to environmental degradation.

Activities:

Monitor Your Consumption - Ask your students how much they consume daily. For one week keep a daily journal on every product you consume or utilize. At the end of the week evaluate your individual impact on the environment.

How Much Do You Produce? - Along with your students' journal of daily consumption, keep an account of the items of solid waste produced such as empty bottles, tissue or paper used, containers, newspapers and packages for food and clothing. At the end of the week, calculate the total number of articles and multiply it by the number of weeks in one year, then again by the person's age. How much is contributed to the solid waste problem?

Teaching Guide on Solid Waste - Activities involving the solid waste problem can be found in A Curriculum Activities Guide To Solid Waste & Environmental Studies, Vol. IV, developed by the Institute for Environmental Education, 8911 Euclid Avenue, Cleveland, Ohio 44106.

Liabilities Become Assets- Discuss the statement, "Environmental liabilities can become economic assets, if we treat waste as a resource?". Quoted from Roger Morris, Public Information Officer, Department of Pollution Control and Ecology. Illustrations of this statement in Arkansas occurred in Stuttgart at Riceland Foods; at Blytheville through utilization of solid waste, and in Camden by recycling waste products. Where else might this become reality? Have students use their imagination to find other possible conversions of liabilities to assets in your community.

Eco-Action: "Don't Just Stand There"- is an excellent article suggesting ways everyone can help. It is published in There is No "Away" by Roloff and Sylder, Glencoe Press, Beverly Hills, California 90211. The Library Congress catalog card number is 74-142345.

Arkansas Products - Have your students research the major products of Arkansas. What impact does their production have on our natural resources?

School Recycling - Recyclable paper bags are available for lunch sacks; however, they cannot be recycled if they are not disposed of in a recycling container and transported to a paper company which processes them. Set up receptacles for recyclable materials, organize a collection squad, then sell the collected papers to a processor. Only through individual effort such as this can the impact of our economic system on the environment be affected. Information on recycling in Arkansas can be obtained from your local League of Women Voters.

Waste Not - Want Not - All of us pay for crime in our society, either directly in prices or by use of valuable resources. One way is increased packaging costs that help deter shoplifting. We also pay more when businesses utilize electricity for lighting during non-working hours for security purposes. How do the economics of nature suffer as a result of these practices? Are there possible alternatives? Visit a local grocery or discount store. Have students discover these wasteful practices.

Things To Do - Make an Impact! Refuse to buy overpackaged items and products in non-returnable bottles. Take your own shopping bag to the grocery store with you. Form car pools for trips to school or work.

Be Informed - Invite resource persons from the State Consumer Protection Division to speak to the class. Ask them to explain the function of the Division and how it can benefit all Arkansas. Contact Mrs. Clyde Calliotte in Little Rock, phone: 371-2341, or Mrs. Anale Yarbrough in Little Rock, phone 371-2007. Long distance calls may be made free via the Wats line to the office, phone 1-800-482-8982. Some counties also have local coordinators who may be available to speak to students.

Economical Songs? - Allow the class to listen to the recording: "Money" by the OJ's. Discuss the attitudes toward "Mean Green" which is expressed.

"It is with the coming of man that a vast hole seems to open in nature, a vast black whirlpool spinning faster and faster, consuming flesh, stones, soil, minerals, sucking down the lightning, wrenching power from the atom, until the ancient sounds of nature are drowned in the cacophony of something which is no longer nature, something instead which is loose and knocking at the world's heart, something demoniac and no longer planned-escaped, it may be spewed out of nature, contending in a final giant's game against its master".

Leon Eiseley, *The Firmament of Time*.

MYTHS OF TECHNOLOGY

Concepts:

American value systems based on progress and wealth have created myths of technology. However, technology has ceased to be an extension of humanity and humanity has become an extension of technology.

Summary:

When or where in our nation's development did we lose the ancient respect for the earth, air, fire and water? Has progress become an illusion? Is man in competition with himself? The pioneer spirit nurtured by "cowboy economy" which conceived the land as endless and the resources as infinite. Technology has a potential for creation, yet we have shirked our responsibility and allowed it to destroy. Our air, water and land pay the high cost of our prodigality. Man himself has just begun to feel the impact of alienation from nature. It is time to learn, "There is no such thing as a free lunch", as stated by Barry Commoner.

Activities:

American Myths - The myths of Greek culture appear of little validity today. Discuss our myths of technology. What are they? Do all Americans share the same myths? Do people of foreign countries hold similar myths? Assign research projects on technology in other cultures.

Costs of Technology - What does Barry Commoner's statement, "There is no such thing as a free lunch" mean? Have we Americans expected a free lunch at nature's expense? Have students read some of Dr. Commoner's books or articles. Follow-up - take a short field trip on the school grounds. Ask the students to find two examples of how the cost of technology is being paid at nature's expense. List all the different examples and discuss possible alternatives to them.

Careers and Technology - Technology provides jobs which stimulate the economy but can have ill effects on the environment. The career each individual chooses is conversely influenced by his private environment.

Allow students to explore the questions -

- How will my career interest affect the environment?
- What new jobs have been created as a result of environmental awareness?
- What are the benefits and burdens of technological change?

For an excellent resource with accompanying teacher's guide relating to careers and technology, consult Manpower & Economic Education by Robert Darcy and Phillip Powell. Published by Love Publishing Company, Library of Congress catalog card number 73-86162.

Technology and Natural Resources - Student investigations can be directed toward ways technology can be used to supplement our natural resources reserve. Suggestions for study are the use of solar energy, garbage being converted to gas products, rotary engines, geothermal energy and electric powered automobiles. Ask students what careers are created through research and development of environmentally safe products?

Inquiry and Problem Solving - An activity suggested on pages 192-193 in 100 Teaching Activities in Environmental Education by Wheatley and Coon, is an investigation of technology. This useful paper-back book is available from:

The ERIC Center for Science, Math and Environmental
Education
1800 Cannon Drive, 400 Lincoln Tower
Ohio State University
Columbus, Ohio 43210

Advertising and Technology - Give students television assignments. As they watch TV for 3 evenings or one day on Saturday, ask them to list the kinds of advertising broadcasts they have seen. Make sure a variety of channels are viewed. Compile the kinds of commercials observed into the following categories: Promoting Environmental Conservation, Demoting Environmental Conservation, No effect on Environmental Conservation. If students find these categories inapplicable, they may devise their own. Discuss their choice of category and why any given advertisement was placed in a certain category. Follow-up: Ask, how does advertising influence our attitude toward the environment? How does it influence our attitudes toward each other? Can the same thing be said for television programs? Compose letters expressing views on television programming and mail them to the Federal Communications, Congressman, or local television stations.

Population and Technology - Although population increase slowed during the early 70's, American consumption per person increased. What does this reflect about individuals? How many students would be willing to decrease consumption of goods and services? For how long?

Energy Shortage - A shortage of gasoline and petroleum products in the early months of 1974 slowed our economy. Was the result detrimental or beneficial? What are examples of each? The increase in gas prices brought many complaints and accusations upon the oil companies. Who will we blame when water or air become in short supply? Invite a local gasoline distributor or a member of the Arkansas Petroleum Council to speak to your class. Let's hear their side.

Resource Article - "Technology: Misguided Genie", a collection of articles in There is no "Away", by Rolof and Wylder, provides thought-provoking questions and ideas on technology in our society.

BELIEF SYSTEMS

Concepts:

Beliefs determine behavior. Our attitudes toward one another and the environment reflect our belief systems.

Summary:

Belief Systems utilizes the interest-catching approach of astrological signs and famous people born under those signs to survey the history of beliefs. How religion affects beliefs is illustrated by the Hindu, Judeo and Judeo-Christian ethics. The mistaken belief that the earth was the center of the universe and in turn, that man was the most important being in the universe is said to be reflected in Western attitudes today. Notably, those societies who hold man above nature are the ones who are degrading the environment at such a devastating rate. Those cultures who do not envision man as the center of the universe have much less detrimental impact on nature. The film suggests a better belief system would incorporate the best ideas of all belief systems without sacrificing technological advancement.

Activities:

Original Ecologist - The American Indian was pointed out by the film as a very good ecologist. How did the beliefs of the American Indian differ from ours today? Select a tribe of Arkansas Indians to study., Find out how they gathered food, built shelters and managed the tribe. What were their religious beliefs? The Museum of Science and Natural History in MacArthur Park, Little Rock, can provide helpful material for this inquiry.

Art Communication - Gather a collection of pictures of Early America and of America today. Make a comparison of the life styles. Have our beliefs as Americans changed? How have laws perpetuated the ideas of the Revolutionists of 1776?

Compare attitudes - Read Sand County Almanac by Aldo Leopold, published by Oxford University Press, New York, N. Y. (1949). What belief systems are reflected by the author? Do you share any of them?

Laws and Belief Systems - What does the Constitution of the United States and the Bill of Rights reflect about our founding fathers? Do we still hold their ideals? What later amendments reflect a change in American belief systems? (See specifically two following the Civil War, the 13th and 14th amendments.)

Follow-up Inquiry - Another amendment to the Constitution has been introduced by Senator Gaylord Nelson of Wisconsin. It reads: "Every person has the inalienable right to decent environment. The United States and every state shall guarantee this right". Do you support this proposed amendment? If passed, what does it reflect about American thinking? Is it a true reflection or are we placating ourselves with words and not action? In light of Watergate, what other amendments might be proposed.

New Bill of Rights? - 100 Teaching Activities in Environmental Education by Wheatley and Coon (address given above) suggests another interesting comparison of two different Bills of Rights. Conduct this activity on pages 162-163 in your classroom. The film, Belief Systems, suggests that a better belief system can be created by incorporating the best ideas of all belief systems into one, without sacrificing technological advancement. Can this be accomplished? Suggest which of the belief systems should be used and which should be forgotten.

"There is a loftier ambition than merely to stand high in the world. It is to stoop down and lift mankind a little higher".

Henry Van Dyke

ANTECEDENTS OF CONTEMPORARY PROBLEMS

Concepts:

History teaches that civilizations are not self-sustaining. Our contemporary problems have their genesis in old attitudes and past conceptions of the environment. If our civilization is to be sustained, we must each gain a new ecological perspective.

Summary:

Through civilization man has worked to conquer his environment. The irony of this fact lies in another -- without our environment, our civilization will not be maintained. History offers an explanation. Pre-industrial man experienced direct contact with nature and held respect for it. Post-industrial man modifies his environment and isolates himself from it. As a result of isolation, he forgets his dependence upon nature. The Organic Theory postulates that all civilizations follow a cycle. Their progression is birth - growth - maturity - decline and death. In which state is present civilization? Is there any way to avoid the cyclic phenomenon? Has man become over-civilized? History suggests the need for an environmental consciousness recognizing man as part of the environment and responsible for it..

Activities:

Value Judgments - Take a field trip on the school grounds. Ask students to make two lists - one of things they love and another of things they hate. After the lists are completed discuss how we rate our surroundings. Do we not rate them according to how useful they are to us.

Art and Expression - Has man become overcivilized. Ask students to express their feelings on this question through finger painting or by writing haiku. Haiku originated in Japan and is used to express man's relation to the natural environment.

Attitude Evaluation - Attitudes fostering contemporary problems are demonstrated by the Art Buchwald article, "Cleanest Shirt in Town", reprinted in "There Is No Away", by Roloff and Wylder. Alternative attitudes are suggested by "Why Are You Doing That", by Donald L. Kahlsten, also reprinted in There is No "Away".

Investigate attitudes - Secure copies of some of Thomas Cole's paintings such as "The Course of an Empire". Ask students to express their feelings about the cycle? Which are easiest to remedy?

The Organic Theory - Bacterial cultures provide a ready example of organisms proceeding through the cycle postulated by the Organic Theory. Set up several cultures and monitor their progression. Ask what factors lead to decline? What factors lead to the death of the colonies?

Contemporary Inquiry - Can the next generation stop pollution? This question and others on contemporary problems are discussed in "Pollution of the Environment: Can we Survive?". by Michael Glassman, published by Grove Book Company, Inc., 175 Fifth Avenue, New York, N. Y. 10010.

Arkansas Industry - Arkansas continues to develop industrially. Ask students how they will be affected within the next decade by industrial expansion. How will the environment of our state be affected? For information concerning recent industrial development, write:

The Department of Industrial Development
205 State Capitol
Little Rock, Arkansas 72201

Environmental Power - An activity suggested by Environmental Studies is to go outside and find things that represent power. Sketch, photograph or visibly describe the things discovered. Exchange the pictures and discuss what kind of power is seen in each other's description. More Environmental Studies material is available from Addison-Wesley, The Innovative Division.

Individual Freedom - Have students consider how an environmental crisis affects individual freedom. Consider the loss of some of our former freedoms brought on by the energy shortage. How much more would they be affected by a water shortage? A food shortage?

Controversy: Individual Choice - How did the energy shortage affect the Alaskan pipeline controversy? Preservationists' point of view is expressed in the poster, "There Is More Than One Way to Get a Caribou Across the Pipeline". The poster is available free from:

Friends of The Earth, Inc.
529 Commercial Street
San Francisco, California 94111

Design posters to express local environmental controversies.

Arkansas & Contemporary Problems - As other states, we have environmental problems in Arkansas. The regulatory agency created to remedy those problems is The Department of Pollution Control and Ecology. The Department is currently producing a film, "The Story of Pollution Control", which when completed will be available upon request from the agency.

INDIVIDUAL INVOLVEMENT: AN OVERVIEW

Concepts:

To solve our environmental problems everyone must make a commitment to do his part. Improving the quality of the environment depends on individual involvement.

Summary:

The film is itself a summary of all others in the series "Man and Environment". Its value lies in the suggestions it makes for individual involvement. The suggestions include:

Considering the impact of the environment made by our personal life style.

Modifying our life style as a contribution in the effort for a better environment. Modification may come in various forms such as refusal to buy paper products when cloth can be used, refusal to purchase animal skins or products made through slaughter of wildlife, and caring for our own property in ways which conserve natural resources.

Each person should become informed about the local environment issues. He should learn about laws affecting air, water, soil and land use. He can influence others to support Congressmen and Legislators who consider the environment a valuable resource. All of us can think of alternatives to present practices which degrade our environment and the lives of those who share spaceship earth.

Activities:

Community Inquiry - Using area maps, have students locate major highways, dumps, population centers, sewer outfalls, power plants, and waterways. List potential environmental problems that you foresee for this area. Use such resources as County Commissioners, City Managers, Mayors, Game Wardens, Newspapers, Public Health Board, etc., to investigate one of the potential problems. For each problem, allow the student to discover what laws are already in existence concerning this problem and how these laws are enforced. (100 Teaching Activities in Environmental Education), by Wheatley and Coon.

Create Awareness - Design posters or bulletin boards at school to depict local environmental problems or ways everyone can become involved in the environmental effort. Ideas for bulletin boards on Ecology have been compiled by W. R. Parker of the State Department of Education. For a copy of bulletin board ideas, contact the Department of Education, Environmental Education, 104W, Arch Ford Education Building, Little Rock, Arkansas 72201.

Poetry & Awareness - Study the poem by John Gould Fletcher, "To the Twentieth Century", printed in The Burning Mountain, Athenea Press. Note that this poem was written in 1943. Has it become dated or more applicable to our society today? Who was John Gould Fletcher? What is meant by the passage, "Let us take from the slow majesty of the brooding fields and far mountains, the water, the earth and the sky as our garments - and guard each here his hearthstone, alone?" Can we learn from this admonishment from the past? What admonishments would you give to future generations?

Preserving the Environment - Read "Sparrows Don't Drop Candy Wrappers", by Margaret Gabel, published by Dodd, Mead & Company, New York, N. Y. (1971). The book suggests ways we can help preserve the environment.

Youth Conservation - Utilize library resources to become informed on basic ecological concepts. Write for a free copy of "Challenges to Youth" from:

The Conservation Foundation
1917 Massachusetts Avenue
Washington, D. C. 20036

This booklet suggests ways young people can become involved in environmental programs.

Individual Involvement - For individuals, ideas are provided in "The User's Guide to the Protection of the Environment" by Paul Swatek, and "The Ecological Citizen" by Dirck Van Sickle (1971).

Economics and Environment - Non-returnable bottles and cans add to the solid waste problem. We contribute by purchasing such items. The only way producers know what we want is when we exercise our choice either to buy or decline to buy. Have students conduct an experiment in the grocery. Have them count the number of products that they buy in packages that will be of no use once the product is used. Count the number of items that they purchase in containers or wrappings that can be used once the product is consumed. What are those uses? Is all the packaging necessary? What are the alternatives?

Economics at Home - Many industries have found that when they clean up a former pollutant, it frequently becomes an economic asset. This is also possible in homes. Consider the suggestions made by the film, "Individual Involvement". Ask students - "in what ways can you change your life style to benefit the environment? What changes could your whole family make? Are you serious enough to make these changes and continue them?"

Low Cost Knowledge - Available free or at very low cost are public information articles on the multitude of subjects, including energy conservation and environmental protection from the government printing

office. To obtain an index of materials and their cost, write:

Consumer Information
Public Documents Distribution Center
Pueblo, Colorado 81009

Note also that the State Consumer Protection Division is able to supply multiple copies of some government publications free. Contact the Division for a bibliography of their literature at the address below:

Mrs. Clyde Calliotte
Consumer Counselor
Consumer Protection Agency
Justice Building
Little Rock, Arkansas 72201